

preferably a metal cable that limits the spacing between steps to a predetermined amount. The uppermost step being fixed permanently or temporarily into position so that each subsequent step would "hang" from the step above.

[0005] The preferred material for the invention is metal although other materials such as wood and composites could be used as well.

Claims

[c1]

A spiral stair apparatus comprising

individual steps that are not permanently fixed and can be moved either vertically, horizontally, or angularly from their in-use position.

[c2]

An apparatus as described in claim 1 also comprising

a permanently fixed center pole.

[c3]

An apparatus as described in claim 2 also comprising

a center pole having integral longitudinal tracks along which individual steps are allowed to move.

[c4]

An apparatus as described in claim 2 also comprising

a center pole having one track that encircles the center pole as it extends along the length of the pole and serves to facilitate attachment between the center pole and all steps with

each step, with the possible exception of the uppermost step, being moveable along the track such that the total of the steps can be raised or lowered with each step being attached to the step immediately above and below by some mechanical means, preferably a metal cable, that would prevent the spacing between steps from exceeding a predetermined limit.

[c5]

An apparatus as described in claim 2 also comprising

a stationary and permanently fixed center pole along which individual steps can translate vertically.

[c6]

An apparatus as described in claim 2 also comprising

a stationary and permanently fixed center pole about which individual steps can be rotated in order decrease the swept area occupied by the spiral stair while not in use.

[c7]

An apparatus as described in claim 2 also comprising

a stationary and permanently fixed center pole and comprising individual steps that are hinged in relation to the center pole in such a way as to allow the individual steps to be folded either up or down so they lay parallel to the center pole when not in use.

[c8]

An apparatus as described in claim 1 also comprising

a telescoping center pole that can be collapsed by some amount when the stair is not in use.

[c9]

A spiral stair comprising

an apparatus that can be retracted and stored in a location or configuration that is different than the location or configuration during use, for example retracting into the ceiling when used as an attic stair.

[c10]

An apparatus as described in claim 2 also comprising